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S-5696

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows. This listing of claims will replace all prior listings.

1. (CURRENTLY AMENDED) A vortex generator for a surface which generates a primary tip vortex, said vortex generator comprising:

a plurality of vorticity generating protuberances defined upon a distal end of a tip defined between an upper and lower aerodynamic surface to generally parallel to a longitudinal axis defined by said surface which generate small-scale vortices that are ingested and at least partially entrained within a forming core of the primary tip vortex as the primary tip vortex develops from the tip such that a decay rate of the core is accelerated.

2. (CANCELED)

3. (CURRENTLY AMENDED) The vortex generator as recited in claim 1, wherein said surface comprises a rotating aerodynamic surface, said plurality of vorticity generating protuberances located generally parallel to longitudinal axis comprising a feathering axis.

4. (CURRENTLY AMENDED) The vortex generator as recited in claim 1, wherein said surface comprises a rotor blade, said plurality of vorticity generating protuberances located generally parallel to longitudinal axis comprising a feathering axis.

5. (ORIGINAL) The vortex generator as recited in claim 1, wherein said plurality of vorticity generating protuberances comprise deployable members.

6. (CANCELED)

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7. (CURRENTLY AMENDED) An aerodynamic member comprising:
an outboard section terminating in a tip which generates a primary tip vortex, said outboard section defining a longitudinal axis; and
a plurality of vorticity generating protuberances which extend from a distal end of said tip generally parallel to the longitudinal axis, said plurality of vorticity generating protuberances generate small-scale vortices that are ingested and at least partially entrained within a forming core of the primary tip vortex as the primary tip vortex develops from the tip such that a decay rate of the core is accelerated.

8. (CURRENTLY AMENDED) The aerodynamic member as recited in claim 7, wherein said tip comprises a distal end is a distal end of a rotor blade, said longitudinal axis comprising a feathering axis.

9. (CURRENTLY AMENDED) The aerodynamic member as recited in claim 7, wherein said tip comprises distal end is a distal end of a wing.

10. (PREVIOUSLY PRESENTED) The aerodynamic member as recited in claim 7, wherein said tip comprises a distal end of a propeller, said longitudinal axis comprising a feathering axis.

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11. (CURRENTLY AMENDED) A method of accelerating diffusion of a primary tip vortex comprising the step of:

(1) generating small-scale vortices from a distal end of a surface that are ingested and at least partially entrained within a forming core of the primary tip vortex as the primary tip vortex develops from the tip to destabilize a the core of said the primary tip vortex such that a decay rate of the core is accelerated.

12. (ORIGINAL) A method as recited in claim 11, wherein step (1) further comprises locating a plurality of vorticity generating protuberances on a tip of a rotating member which generates the primary tip vortex.

13. (ORIGINAL) A method as recited in claim 11, wherein step (1) further comprises locating a plurality of vorticity generating protuberances on a tip of a fixed member which generates the primary tip vortex.

14. (CURRENTLY AMENDED) A method as recited in claim 11, further comprising the step of:

selectively extending a vorticity generating protuberances from a tip which generates the primary tip vortex.

15-17. (CANCELED)

18. (PREVIOUSLY PRESENTED) The aerodynamic member as recited in claim 7, wherein said tip is defined between an upper and lower aerodynamic surface, said longitudinal axis comprising a feathering axis.

19. (PREVIOUSLY PRESENTED) A method as recited in claim 11, further comprising the step of:

selectively extending a vorticity generating protuberance from a tip of a rotor blade which

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generates the primary tip vortex in response to an azimuthally position of the rotor blade.

20. (PREVIOUSLY PRESENTED) A method as recited in claim 11, wherein step (1) further comprises locating a plurality of vorticity generating protuberances on a distal end between an upper and lower aerodynamic surface of a tip which generates the primary tip vortex.

21. (NEW) The vortex generator as recited in claim 1, wherein said plurality of vorticity generating protuberances are of a scale commensurate to a boundary layer thickness.

22. (NEW) The vortex generator as recited in claim 1, wherein said plurality of vorticity generating protuberances include a multiple of pins.

23. (NEW) The vortex generator as recited in claim 1, wherein said plurality of vorticity generating protuberances include a multiple of vortex plows.

24. (NEW) The vortex generator as recited in claim 1, wherein said plurality of vorticity generating protuberances include a multiple of vortex ramps.

25. (NEW) A method as recited in claim 11, wherein step (1) further comprises maintaining the primary tip vortex as a single vortex with the core being increasing diffused downstream of the tip.

26. (NEW) A method as recited in claim 11, wherein step (1) further comprises generating the small-scale vortices from within the core of the primary tip vortex.

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27. (NEW) A method of accelerating diffusion of a primary tip vortex comprising the step of:

- (1) generating a single primary tip vortex from a distal end of a rotary aerodynamic surface;
- (2) generating small-scale vortices from a distal end of the aerodynamic surface that are ingested and at least partially entrained within a forming core of the single primary tip vortex as the primary tip vortex develops from the tip;
- (3) maintaining the single primary tip vortex while accelerating a decay rate of the core by the ingested small-scale vortices generated in said step (2).